Source: www.pbs.org/hometime/house/environ/images/grass2.jpg 4/17/13

Grass in the Environment

Grasses in Nature

There are a great variety of grass plants found throughout the world. Some species of grass grow only an inch high, others may grow to be 100 feet tall. Some grass plants live only a year, others may live as long as forty years. They thrive in a wide variety of habitats, from watery bogs and rivers to arid savannahs and frozen tundra. Scientists are still learning about the grasses and what they have to teach us.

The Origin of Grasses

Until quite recently, the earliest examples of grasses found in the fossil record were dated to about 55 million years ago. To put this into perspective, it was often said that grasses did not evolve until after the age of the dinosaurs, which ended 65 million years ago. However, in 2005 the discovery of grass in a dinosaur coprolite changed our view of the origin of grasses, and pushed the probable date of their origin back by at least 10 million years.

Grasslands and other grass communities

Grasslands are ecosystems in which grasses are the predominant plants, but they are typically growing alongside a wide variety of broad-leaved plants. Some of the more well-known grasslands of the world are:

- North American plains and prairie
- African Savannah
- South American pampas
- Steppes and puszta of Eurasia
- Veldts of South Africa
- Australian outback

Grasses are also an important part of wetland ecosystems.

How Do Grasses Help the Environment?

Grasses provide the same benefits to the environment as trees, shrubs, and other plants:

- Clean the air
- Produce oxygen
- Sequester carbon
- Provide food and habitat for animals and microorganisms
- Contribute organic material to the soil
- Stabilize soil with their root systems

In the human landscape, the turfgrass in healthy lawns can provide effective erosion control and contribute to water filtration and purification.

Ecology and Grass

The role humans play in environmental pollution is important to address. Questions have been raised about the role turfgrass and lawn-care practices play in key environmental issues. Scientists at the USDA and elsewhere are investigating these questions, identifying problems where they exist, and providing solutions.

Lawn care practices and guidelines have been developed to mitigate the effects of runoff and erosion. Scientific research is being done to breed hardy grasses which are suitable for landscape uses but require less fertilization, are more drought-tolerant, and are pest-resistant.

New Uses for Grasses

Scientists and environmentalists are investigating new ways to use grasses, including turfgrass, to improve the environment. Examples include using turfgrass pavers as a component of permeable surfaces for roadsides and parking lots, and incorporating grasses into rain gardens and green roofs.

The Role of the Turfgrass Industry

Organizations such as the Lawn Institute and the Golf Environment Organization, in addition to representatives of the turfgrass and lawn care industries, are participating in finding solutions to address concerns about the environmental impact of current practices.